

**SPECIFICATION:**

Page 16, lines 19-23, replace: "Thus, the apparatus of the invention 20 consists of a AP-MALDI mass spectrometer 22 with an ion-sampling orifice 24 a sample-plate handling flange (hereinafter referred to merely as a target flange) 26, and a base plate 48 with a first drive module 42 and a second drive module 44." With the following:

--. Thus, the apparatus of the invention 20 consists of a AP-MALDI mass spectrometer 22 with an ionization chamber 23 having an ion-sampling orifice 24, a sample-plate handling flange (hereinafter referred to merely as a target flange) 26, that comprises a disconnectable part of the ionization chamber 23 moveable away therefrom for handling and loading/unloading the sample plates [carriers], and a base plate 48 with a first drive module 42 and a second drive module 44. Thus, in contrast to any known ionization chambers of this type, the ionization chamber 23 of the apparatus 20 of the invention is divisible and consists of a stationary portion 25 (Fig. 1) that belongs to the mass spectrometer 22 and a moveable part, i.e., the target flange 26 that is completely disconnectable from the permanent portion 25 and that handles and transfers sample plates, such as a sample plate 26-1a shown in Fig. 1, directly from the protective sample plate carriers, such as a sample plate carrier 26-3 (Fig. 1) to the mass spectrometer 22. It is important to note that during transportation of the sample plates between the target flange 26 and the storage device, which is described below, the sample plates are located in protective positions within the sample plate carriers. In Fig. 1 the sample plate 26-1a, as well as all other sample plates, is shown in a protective position so that only the back side 261a-1 of each of the sample plates is seen in this drawing. --

Page 17, line 23 –24, replace:

"These gripper fingers are also used for aligning sample carriers 26-3 which will be described later with reference to Fig. 7.

The stage 26-1 is moveable on the stage 26-2 in the direction of arrow B, which is parallel .....” with the following -- These gripper fingers are also may be used for aligning sample carriers 26-3 which will be described later with reference to Fig. 7.

Although in Fig. 2 the sample plate 26-4 is shown with samples 29-1, 29-2, .... 29-n exposed to the outside, this is the final working position of the sample plate, in which it is installed on a sample plate table formed by the stages 26-1, 26-2 and the target flange 26. However, as shown in Fig. 1, during storage and transportation through the atmospheric environment to the target flange 26, the sample plates, such as, e.g., a sample plate 26-1a, assume positions, in which the samples 29-1, 29-2, ... 29-n (not shown in Fig. 1) are unexposed to the surrounding atmosphere as they face the sample plate carrier 26-3. Therefore, the samples are protected from contamination. Another feature that also contributes to the protection of the samples from contamination is that the sample plate handling mechanism does not have direct contact with the sample plate but rather with the protective sample plate carrier. This allows handling and transportation of the sample plates within apparatus of the present invention with the samples in an atmospheric pressure environment, i.e., without the use of a specially controlled environment such as vacuum used in conventional systems of this type.

The stage 26-1 is moveable on the stage 26-2 in the direction of arrow B, which is parallel .....-

Page 18, lines 16-19, replace: “One distinguishing feature of the present invention is that the sample plates are not always handled directly but are handled through the intermediary of sample plate carriers that circulate through the system between the sample storage device and the sample plate

loading/unloading station or stations. " by the following: --One distinguishing feature of the present invention is that the sample plates are not always handled directly but are handled through the intermediary of the aforementioned sample plate carriers, such as, e.g., the sample carrier 26-3 shown in Fig. 1, that circulate through the system between the sample storage device and the sample plate loading/unloading station or stations. --

Page 26, insert after the last line of this page the following --Once again, it can be seen from Fig. 8 that in this embodiment during loading and unloading the samples of the sample plates 26-4 on their back sides 26-4-3 are exposed to the atmospheric pressure, while the sample sides are not exposed to the atmosphere pressure but face the loading and unloading carriers 124 and carrier 126, respectively.

Page 30, lines 13-17, replace the sentence: "The outer surface of the ring-shaped body 216 may have shallow recesses (not shown) having a width equal to the width of the sample plates 26-4 in order to center the plates with the center of the respective magnet 222a, 222b,... 222n when the sample plate 26-4, which is made of a material with magnetic properties, is held in its recess" with the following -- The outer surface of the ring-shaped body 216 may have shallow recesses ~~[(not shown)]~~ 26-4-1 (Fig. 11) having a width equal to the width of the sample plates 26-4 in order to center the plates with the center of the respective magnet 222a, 222b,... 222n when the sample plate 26-4, which is made of a material with magnetic properties, is held in its recess 26-4-1 with the working side 26-4-2 of the sample plate 26-4 facing the aforementioned carrier with a small gap to protect the samples from physical contact . --